Clean Cities and Hydrogen – Building Bridges

Clean Cities Conference Session for Coalitions and Stakeholders
May 20, 2003

Session Overview

- Hydrogen, Fuel Cells, and Infrastructure Technologies Program overview
- Education activities
- Coalition presentations
  - *Hampton Roads*
  - *Northeast Ohio*
  - *Las Vegas*
  - *Coachella Valley*
- Discussion

U.S. Department of Energy
Energy Efficiency and Renewable Energy

President Bush Launches the Hydrogen Fuel Initiative

"Tonight I am proposing $1.2 billion in research funding so that America can lead the world in developing clean, hydrogen-powered automobiles.

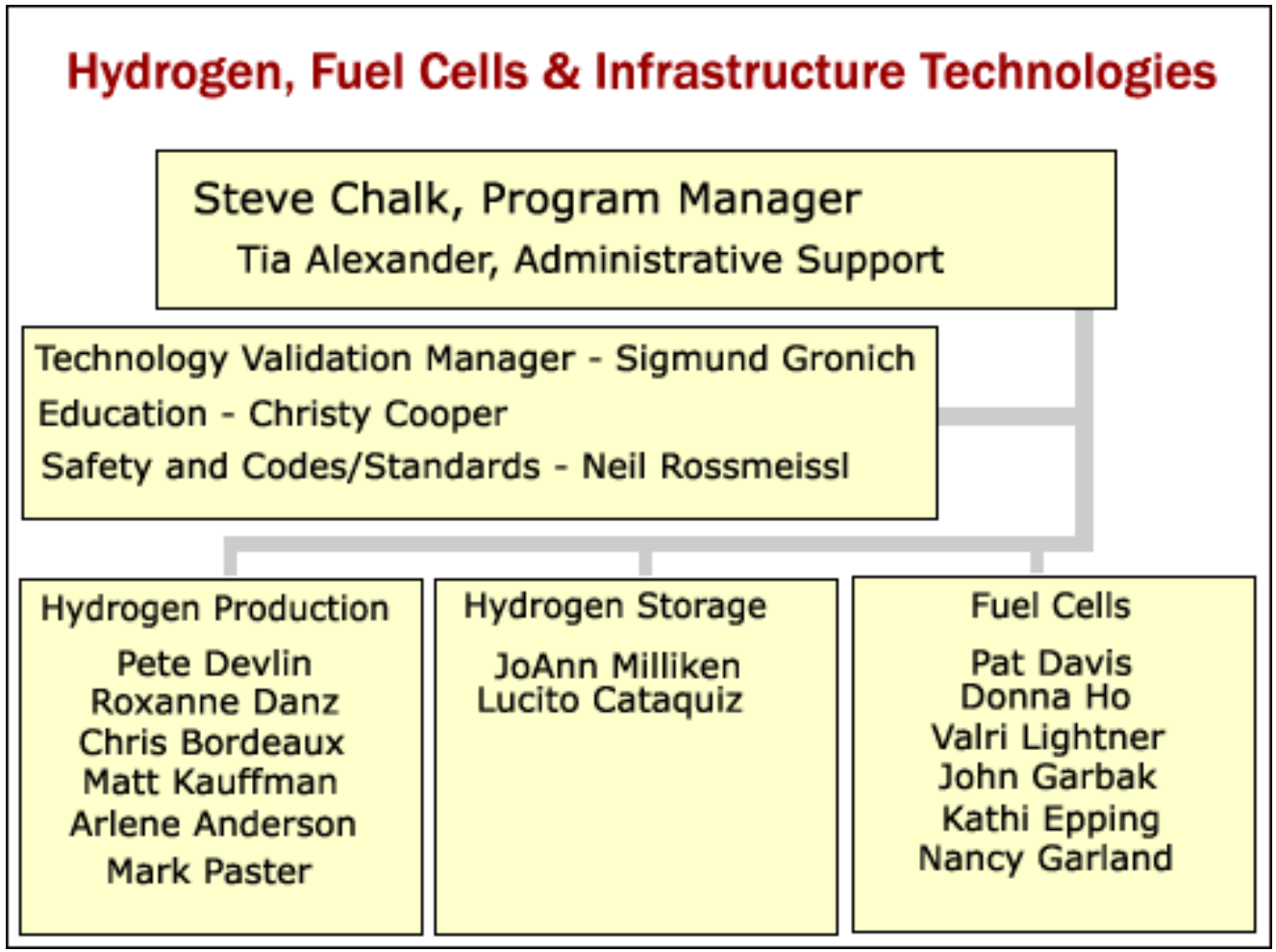
"A simple chemical reaction between hydrogen and oxygen generates energy, which can be used to power a car producing only water, not exhaust fumes.

"With a new national commitment, our scientists and engineers will overcome obstacles to taking these cars from laboratory to showroom so that the first car driven by a child born today could be powered by hydrogen, and pollution-free.

2003 State of the Union Address
January 28, 2003

Fuel Cell Vehicles in the Showroom and Hydrogen at Fueling Stations by 2020

HFCIT Program Overview



HFCIT Program Overview

Program Focus:

Research, develop, and validate fuel cell and hydrogen production, delivery and storage technologies for transportation and stationary applications

Budget

Major Activities	FY03 Approp.	FY04 Req.
Hydrogen Production and Delivery	$11.8 M	$23.0 M
Hydrogen Storage	$11.3 M	$30.0 M
Safety, Codes and Standards	$4.8 M	$16.0 M
Education and Analysis	$2.0 M	$5.8 M
H2 Infrastructure/FC Vehicle Demo	$11.9 M	$28.2 M
Fuel Cell Systems and Components	$53.7 M	$62.5 M
Total	**$95.5 M**	**$165.5 M**

HFCIT Program Overview

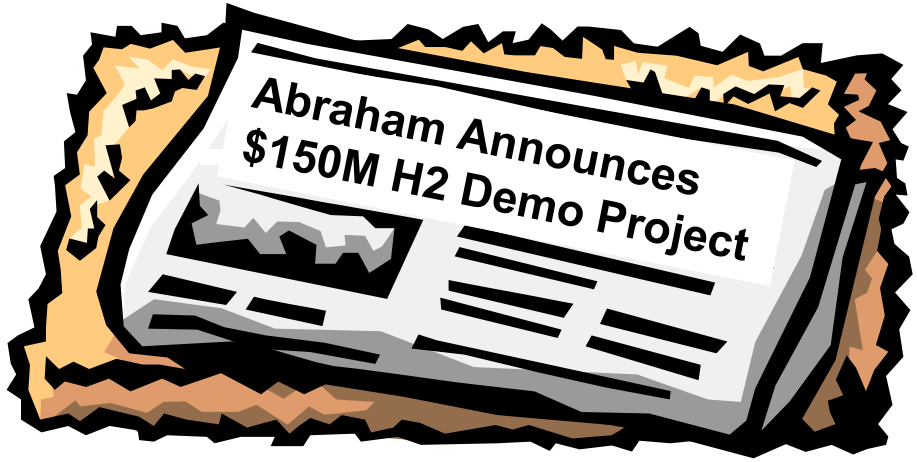
On the Web…

- Find key documents –
  - *Hydrogen Vision & Roadmap*
  - *Fuel Cell Report to Congress*
  - *Annual Progress Report*
  - *Multi-year program plan (draft)*
- Learn about H2/FC technology
- Get the facts about H2 safety
- View fuel cell animation
- Download fact sheets
- Register for news updates
- Find program contacts and budget information
- Link to other key sites

www.eere.energy.gov/hydrogenandfuelcells

HFCIT Program Overview

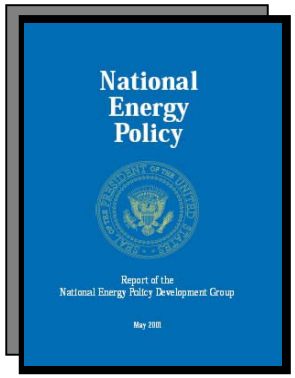
Recent News…



- 5-year project
- 50/50 cost-shared cooperative agreements between industry and DOE
- Seeks teams with OEM, energy company, FC manufacturers, small businesses, universities, and state/ local governments
- Project is a first step toward bringing energy companies and autos together to solve all elements of infrastructure/vehicle development

HFCIT Education – Drivers

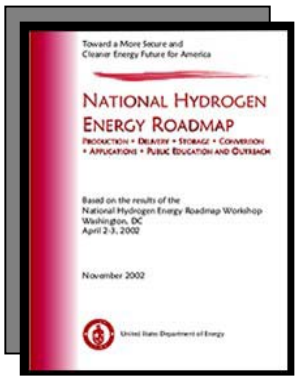
Education is Among the Program's Top Priorities



"The NEPD Group recommends that the President direct the Secretary of Energy to develop next-generation technology – including hydrogen…

- *Develop an education campaign that communicates the benefits of alternative forms of energy, including hydrogen..."*

– National Energy Policy, May 2001



"Educating consumers, industry leaders, and public policy makers about the benefits of hydrogen is critical to achieving the Vision."

– National Hydrogen Energy Roadmap, November 2002

HFCIT Education – Stakeholder/Expert Input

Education Workshop, December 2002

- Proceedings posted on web site, outcomes fed multi-year program plan
- 50+ participants introduced hundreds of ideas
- Cross-cutting activities:
  - Information management
  - Education activities
  - Coalitions and partnerships
- Identified key target audiences:
  - Codes and standards organizations
  - Educators and students
  - General Public
  - Potential end-users
  - State and local decision makers
- Discussed public media campaign

HFCIT Education – Near-Term Priorities

Information Management

- Develop program web site with information for all stakeholders (regardless of technical background); searchable, updated regularly
- Build library and clearinghouse
- Conduct baseline knowledge survey

HFCIT Education – Near-Term Priorities

Educational Activities

- Students and Teachers
  - K-12
    - Coordinated materials development/teacher training/professional development program for secondary schools
    - Use similar process for elementary program
  - University level
    - Web-based catalog of university programs
    - Expand hydrogen and fuel cell components of current college and graduate level programs
- Training for safety and code officials, state and local government representatives

HFCIT Education – Near-Term Priorities

Coalitions and Partnerships

- Create Hydrogen Education Review Panel to coordinate activities with organizations with national scope
- Build education component of Technology Validation projects
- Work with existing DOE programs to extend reach and facilitate information exchange at regional, state, and local levels
  - Clean Cities Coalitions
  - Rebuild America partnerships
  - Energy Smart Schools